website:http://biz.LGservice.com
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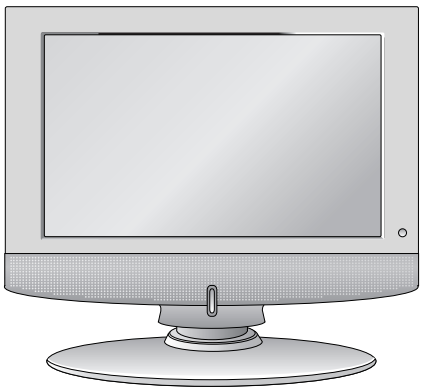
LCD TV
SERVICE MANUAL

CHASSIS : ML-041G

MODEL : 23LC1RB-MB

CAUTION
BEFORE SERVICING THE CHASSIS,
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



CONTENTS

SAFETY PRECAUTIONS

IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by ⚠ in the Schematic Diagram and Replacement Parts List.
It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent Shock, Fire, or other Hazards.
Do not modify the original design without permission of manufacturer.

General Guidance

An **isolation Transformer should always be used** during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and it's components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

Keep wires away from high voltage or high temperature parts.

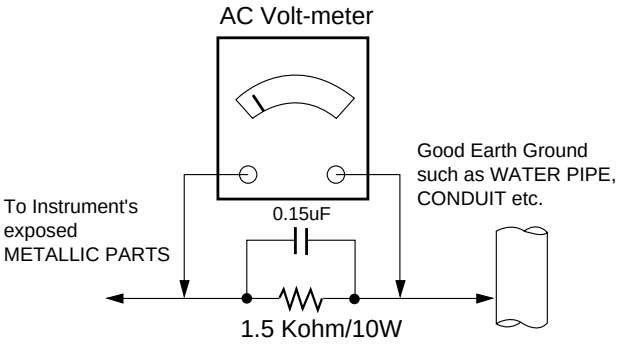
Before returning the receiver to the customer,

always perform an **AC leakage current check** on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

Leakage Current Cold Check(Antenna Cold Check)
With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.
If the exposed metallic part has a return path to the chassis, the measured resistance should be between 1MΩ and 5.2MΩ.
When the exposed metal has no return path to the chassis the reading must be infinite.
An other abnormality exists that must be corrected before the receiver is returned to the customer.

Leakage Current Hot Check (See below Figure)
Plug the AC cord directly into the AC outlet.
Do not use a line Isolation Transformer during this check.
Connect 1.5K/10watt resistor in parallel with a 0.15uF capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.
Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.
Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which is corresponds to 0.5mA.
In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

Leakage Current Hot Check circuit



SERVICING PRECAUTIONS

CAUTION: Before servicing receivers covered by this service manual and its supplements and addenda, read and follow the *SAFETY PRECAUTIONS* on page 3 of this publication.
NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Precautions

1. Always unplug the receiver AC power cord from the AC power source before;
   a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
   b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
   c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.
   CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe.
   Do not test high voltage by "drawing an arc".
3. Do not spray chemicals on or near this receiver or any of its assemblies.
4. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable non-abrasive applicator; 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength)
   CAUTION: This is a flammable mixture.
   Unless specified otherwise in this service manual, lubrication of contacts in not required.
5. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.
6. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
7. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.
   Always remove the test receiver ground lead last.
8. *Use with this receiver only the test fixtures specified in this service manual.*
   CAUTION: Do not connect the test fixture ground strap to any heat sink in this receiver.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid-state) devices can be damaged easily by static electricity. Such components commonly are called *Electrostatically Sensitive (ES) Devices.* Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range or 500°F to 600°F.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean and well tinned.
4. Thoroughly clean the surfaces to be soldered. Use a mall wire-bristle (0.5 inch, or 1.25cm) brush with a metal handle.
   Do not use freon-propelled spray-on cleaners.
5. Use the following unsoldering technique
   a. Allow the soldering iron tip to reach normal temperature. (500°F to 600°F)
   b. Heat the component lead until the solder melts.
   c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.
   CAUTION: Work quickly to avoid overheating the circuitboard printed foil.
6. Use the following soldering technique.
   a. Allow the soldering iron tip to reach a normal temperature (500°F to 600°F)
   b. First, hold the soldering iron tip and solder the strand against the component lead until the solder melts.
   c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
   CAUTION: Work quickly to avoid overheating the circuit board printed foil.
   d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

IC Remove/Replacement

Some chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement

1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to the areas).

"Small-Signal" Discrete Transistor Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.
3. Bend into a "U" shape the replacement transistor leads.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact then solder each connection.

Power Output, Transistor Device Removal/Replacement

1. Heat and remove all solder from around the transistor leads.
2. Remove the heat sink mounting screw (if so equipped).
3. Carefully remove the transistor from the heat sink of the circuit board.
4. Insert new transistor in the circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heat sink.

Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicular y to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two "original" leads. If they are not shiny, reheat them and if necessary, apply additional solder.

Fuse and Conventional Resistor Removal/Replacement

1. Clip each fuse or resistor lead at top of the circuit board hollow stake.
2. Securely crimp the leads of replacement component around notch at stake top.
3. Solder the connections.
   CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board to prevent excessive component temperatures.

Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board causing the foil to separate from or "lift-off" the board. The following guidelines and procedures should be followed whenever this condition is encountered.

At IC Connections

To repair a defective copper pattern at IC connections use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections).

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary).
2. carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small "U" in one end of a small gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the out-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area and clip off any excess jumper wire.

At Other Connections

Use the following technique to repair the defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.
2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the lead of the nearest component on one side of the pattern break to the lead of the nearest component on the other side. Carefully crimp and solder the connections.
   CAUTION: Be sure the insulated jumper wire is dressed so the it does not touch components or sharp edges.

SPECIFICATION

NOTE : Specifications and others are subject to change without notice for improvement.

1. Application range

This specification is applied to ML-041G chassis.

2. Requirement for Test

Testing for standard of each part must be followed in below condition.

(1) Temperature: 25°C ± 2°C
(2) Humidity: 65% ± 10%
(3) Power: Standard input voltage (AC 100-240V, 50/60Hz)
(4) Measurement must be performed after heat-run more than 30min.
(5) Adjusting standard for this chassis is followed a special standard.

3.General Specification

LCD Module Feature	Type		TFT Color LCD Module	
	Active Display Area		22.95inch(582.96mm) diagonal	
	Pixel Pitch[mm]		0.124mm(H) x 0.372mm(V) x RGB	
	Electrical Interface		TFT	
	Color Depth		8bit, 16,7M color	
	Size[mm]		546(H) x 318.3(V)x42.1(D)	LPL
	Surface Treatment		Hard Coating(3H), Anti-glare treatment of the front polarizer	
	Operating Mode		Normally Black	
	Back light Unit		6CCFL(6 lamps)	
	R/T	Typ	17ms(R.T. : 8ms + F.T. : 9ms)	

4. Reference table - Function

No	Item	Specification	Remark
1	Tele text	TOP, FLOF,LIST 10 page	Pal(option)
2	REMOCON	NEC Code	PAL/ NTSC
3	AV Input	2	Rear & Side : MB/TB
		1	Rear : ZB
4	S-Video Input	1	Rear
5	Component input	1	Rear : NTSC, Side : PAL
6	PERI TV Connector	Full SCART : 1	Rear (option : EU)
7	Ear-phone output	1	
8	RS-232	1	Only Commercial Model
9	Discrete IR	1	Only Commercial Model
10	2 Carrier Stereo	BG, DK	
11	NICAM Stereo	BG, I, LL'	
12	2 Carrier Dual	BG, DK	
13	NICAM Dual	BG, I, LL'	
14	DW(Double Window) Mode	X	
15	MW(Multi Window) Mode	X	
16	Film Mode	X	
17	Noise Reduction	X	
18	Progressive Scan	O	
19	Motion Detection	X	
20	SRS WOW	X	
21	Swivel Speaker	X	
22	EZ-pip	X	
23	ARC	O	
24	DRP	X	
25	DCDI	X	
26	HDCP	X	

5. Mechanical specification

No	Item		Content			Remark
1	Product Dimension		Width (W)	Length (D)	Height (H)	
		Before Packing	611.6	275.6	485.2	
		After Packing	704	660	233	
2	Product Weight	Only SET	10.9 kg			
		With BOX	14.2kg			

6. Outgoing Condition

No	Item			Condition	Remark
1	Power			Off	
2	Volume Level			30	
3	Main Picture Input			TV	
5	Main Last Channel			2ch	
6	Mute			Off	
7	ARC			16:9	
8	Channel	Auto Program(EZ Scan)		None	
		Manual prog.		None	
		Favorite ch.		None	
9	Picture	APC(EZ Video)		Clear	
		Dynamic	Contrast	85	
			Brightness	60	
			Color	70	
			Sharpness	70	
			Tint	0	
10	Sound	DASP(EZ Audio)		Flat	
		AVL		Off	
		Balance		0	
11	Time	Clock		Auto	
		Off Time		None	
		On Time		None	
		Auto Time		None	
12	Special	Language		English	
		Caption/Text		CC1	USA/Canada Only
		Caption		Off	
		Ley Lock		Off	
		Parebtak	Lock	Off	USA/Canada Only
			Set Password	None	
			MPAA	Unblocked	
			Age Block	None	
			Content Lock		
			Aux Block	Unblocked	
			Canadian	None	Canada Only
		Power Indicator		On	
13	PC	H-Position		Variable by each mode	
		V-Position			
		Clock			
		Phase			
		Auto Configue		None	
		Reset		None	

7. Engineering Specification

No.	ITEM	Specification	Remark
1	ENERGE	POWER CONSUMPTION	LED COLOR
	Normal	≤ 120W	Blue
	Stand By,	≤ 1W	Amber
	DPM mode (PC H/V-sync on/off)	≤ 30W	Blue

	ITEM	Specification		Remark
2	D-SUB Pin configuration	1 : RED 3 : Blue 5 : S.T (GND) 7 : Green GND 9 : N.C 11: ID0(GND) 13: H-Sync 15: SCL	2 : Green 4 : ID2 (GND) 6 : RED GND 8 : Blue GND 10: D-GND 12:SDA 14: V-Sync Shell: GND	
3	Control Function	1) Contrast/Brightness 2) H-Position / V-Position 3) Tracking : Clock / Phase 4) Auto Configure RESET		
4	Component Jack	1 : Y 3 : Pb 5 : Pr		MB/TB rear ZB side
5	D2 Jack (525i, 525p)	1 : Y 3 : Pb 5 : Pr 7 : Line1 Ready 9 : LINE2 11: LINE3 13: Line3 Ready	2 : Y GND 4 : Pb GND 6 : Pr GND 8 : LINE1 10:Line2 Ready 12:SWITCH GND 14: SWITCH	JAPAN Only

8. Optical Character(LCD Module)

No	Item	Specification				Remark
					LPL	
1	Viewing Angle <CR≥10>	R/L U/D			178 / 178 178 / 178	Typical(min:176)
2	Luminance	Luminance (cd/m2)			450	Typical(min:350)
		Variation			1.6	MAX
3	Contrast Ratio	Contrast Ratio(CR)			Typ 600:1, Min 400:1	
4	CIE Color Coordinates	White	Xw	Typ.	0.272	
			Yr	Typ.	0.278	
		RED	Xr	Typ.	0.637	
			Yr	Typ.	0.337	
		Green	Xg	Typ.	0.276	
			Yg	Typ.	0.605	
		Blue	Xb	Typ.	0.146	
			Yb	Typ.	0.062	

9. Component Video Input(Y, P_B, P_R)

No	Resolution	H-freq(kHz)	V-freq.(kHz)	Pixel clock(MHz)	Remarks
1.	720x480	15.73	60	SDTV, DVD 480i	ZB, TB, MB
2	720x480	15.63	59.94	SDTV, DVD 480i	ZB, TB, MB
3	720x480	31.47	59.94	EDTV 480p	TB, MB
4	720x576	15.625	50.00	SDTV, DVD 576i	ZB, TB
5	720x576	31.25	50.00	HDTV 576p	TB
6	1280x720	45.00	60.00	HDTV 720p	TB, MB
7	1280x720	44.96	59.94	HDTV 720p	TB, MB
8	1920x1080	31.25	50.00	HDTV 1080i 50Hz (Only AU)	TB
9	1920x1080	33.75	60.00	HDTV 1080i 60Hz (ATSC)	TB, MB
10	1920x1080	33.72	59.94	HDTV 1080i 59.94Hz	TB, MB

10. PC INPUT Mode table

No	Resolution	H-freq(kHz)	V-freq.(kHz)	Pixel clock(MHz)	Remarks
Analog RGB, Digital RGB					
1	640x480	31.469	59.94	25.17	VESA(VGA)
2	800x600	37.879	60.31	40.00	VESA(SVGA)
3	1024x768	48.363	60.00	65.00	VESA(XGA)
4	1280x768	47.693	60.00	80.125	VESA(WXGA)
5	1360x768	47.649	59.936	84.625	VESA(WXGA)

ADJUSTMENT INSTRUCTION

1. Application Object

This document is applied to 23" Wide LCD TV which is manufactured in Monitor Factory or is produced on the basis of this data.

2. Designation

2.1. The adjustment is according to the order which is designated and which must be followed, according to the plan which can be changed only on agreeing.
2.2. Power Adjustment: Free Voltage
2.3. Magnetic Field Condition: Nil.
2.4. Input signal Unit: Product Specification Standard
2.5. Reserve after operation: Above 30 Minutes
2.6. Adjustment equipments: Pattern Generator (801GF, MSPG925F), DDC Adjustment Jig equipment

3. Adjustment

3.1 Auto Gain/Offset Adjustment

3.1.1 PC Mode Adjustment

3.1.1.1 Adjustment preparation

- Execution of RF no signal during Heat Run over 30min
- 15 Pin D-Sub Jack of LCD TV is connected to the signal of Pattern Generator.(MSPG-925 serise)

3.1.1.2 Auto Gain/Offset Adjustment

- Convert to PC Mode in Input-Mode
- Select MODEL: 37(1024x768) in Pattern Generator
  Select PATTERN:12(16 Step Gray signal) in Pattern Generator (MSPG-925 SERISE)
- Press IN-START Key by using the Remote Controller(SVC), after converting to Adjustment-Mode, press VOL+ Key consecutively in AutoGain Menu.
- After adjustment is complete, pressing enter key, stores and completes the process

3.2.2 Component Mode Adjustment

3.2.2.1 Adjustment Preparation

- Execution of RF no signal during Heat Run over 30min
- The component jack(Y,Pb,Pr) of LCD TV is connected to Y, Pb, Pr Output Signal of Pattern Generator (MSPG-925 SERISE)

3.2.2.2 Auto Gain/Offset Adjustment

- Convert to Component Mode in Input-Mode.
- Select MODEL: 228(480p Mode, Y : 100%, Pb/Pr : 75%) in Pattern Generator
  Select PATTERN : 33(Color Bar Pattern signal) in Pattern Generator (MSPG-925 SERISE)
- Press IN-START Key by using the Remote Controller (SVC), after converting to Adjustment-Mode, press VOL+ Key consecutively in AutoGain Menu.
- After adjustment is complete, pressing enter key, stores and completes the process.

No	Item	Min	Typ	Max	Unit	Remark
1.	White Balance, X axis	0.272	0.287	0.302	MB/TB	±0.015(95% white Video or comp1 mode)
2.	White Balance, Y axis	0.274	0.289	0.304	MB/TB	±0.015 (95%white Video or comp1 mode)
3.	White Balance, X axis	0.268	0.283	0.298	ZB	±0.015 (95%white AV1 or comp mode)
4.	White Balance, Y axis	0.283	0.298	0.313	ZB	±0.015 (95%white AV1 or comp mode)

3.2 EDID (The Extended Display Identification Data) Adjustment

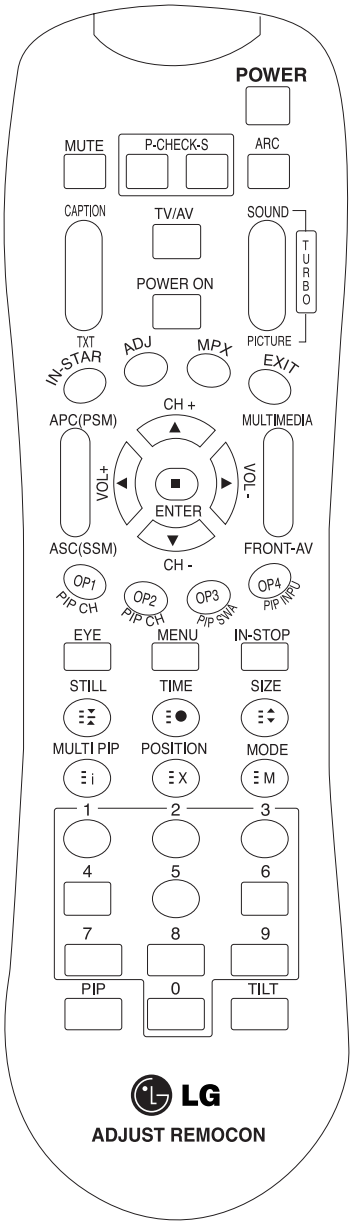
- Connect 15 Pin D-Sub Cable to D-Sub Jack
- Set up the input mode of the SET to PC
- For the DDC connect an automation equipment and data is written on DDC.
  (Refer to Working Order for relative setting up)

3.2.1 EDID DATA

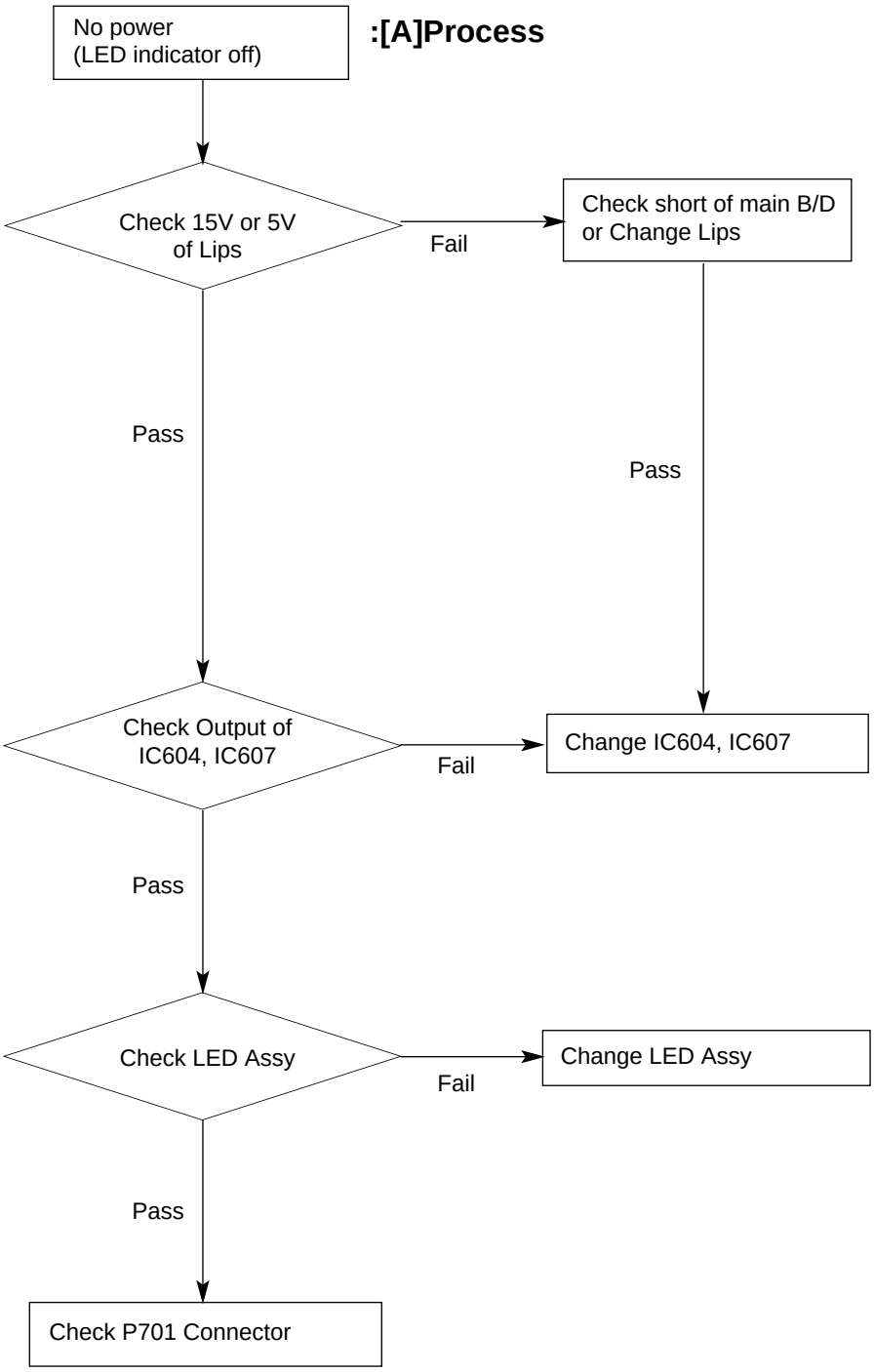
	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00	00	FF	FF	FF	FF	FF	FF	00	1E	6D	17	56	01	01	01	01
10	00	0F	01	03	01	40	26	78	08	B1	DA	A1	56	48	98	24
20	13	48	4B	A1	08	00	31	40	01	01	01	01	45	40	01	01
30	61	40	81	80	01	01	4E	1F	00	90	51	00	1B	30	40	88
40	13	00	A2	0B	32	00	00	18	1B	21	50	A0	51	00	1E	30
50	48	88	35	00	A2	0B	32	00	00	1C	00	00	00	FD	00	3B
60	3D	1F	30	09	00	0A	20	20	20	20	20	20	00	00	00	FC
70	00	32	33	4C	43	31	52	20	20	20	20	20	20	20	00	7B

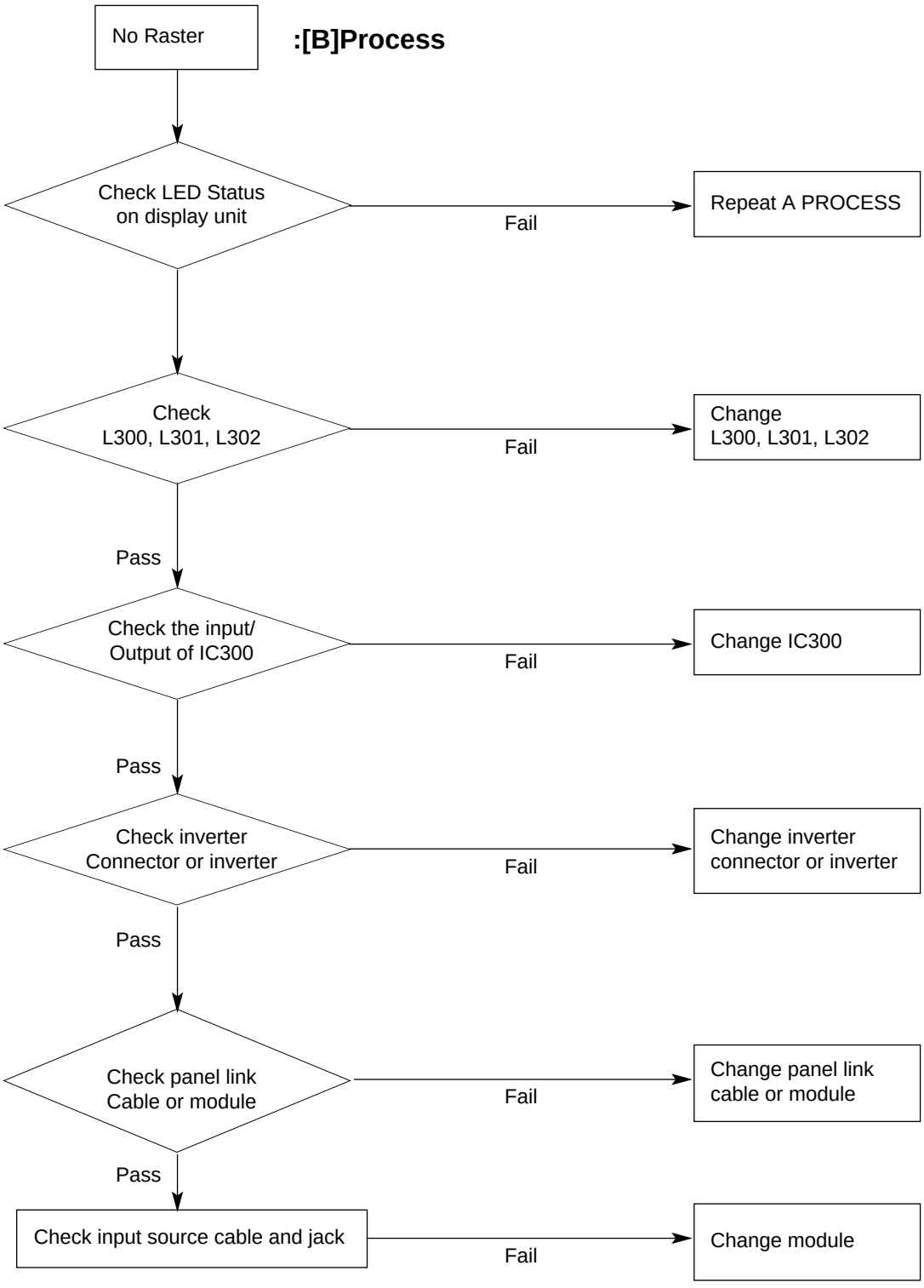
SVC REMOCON

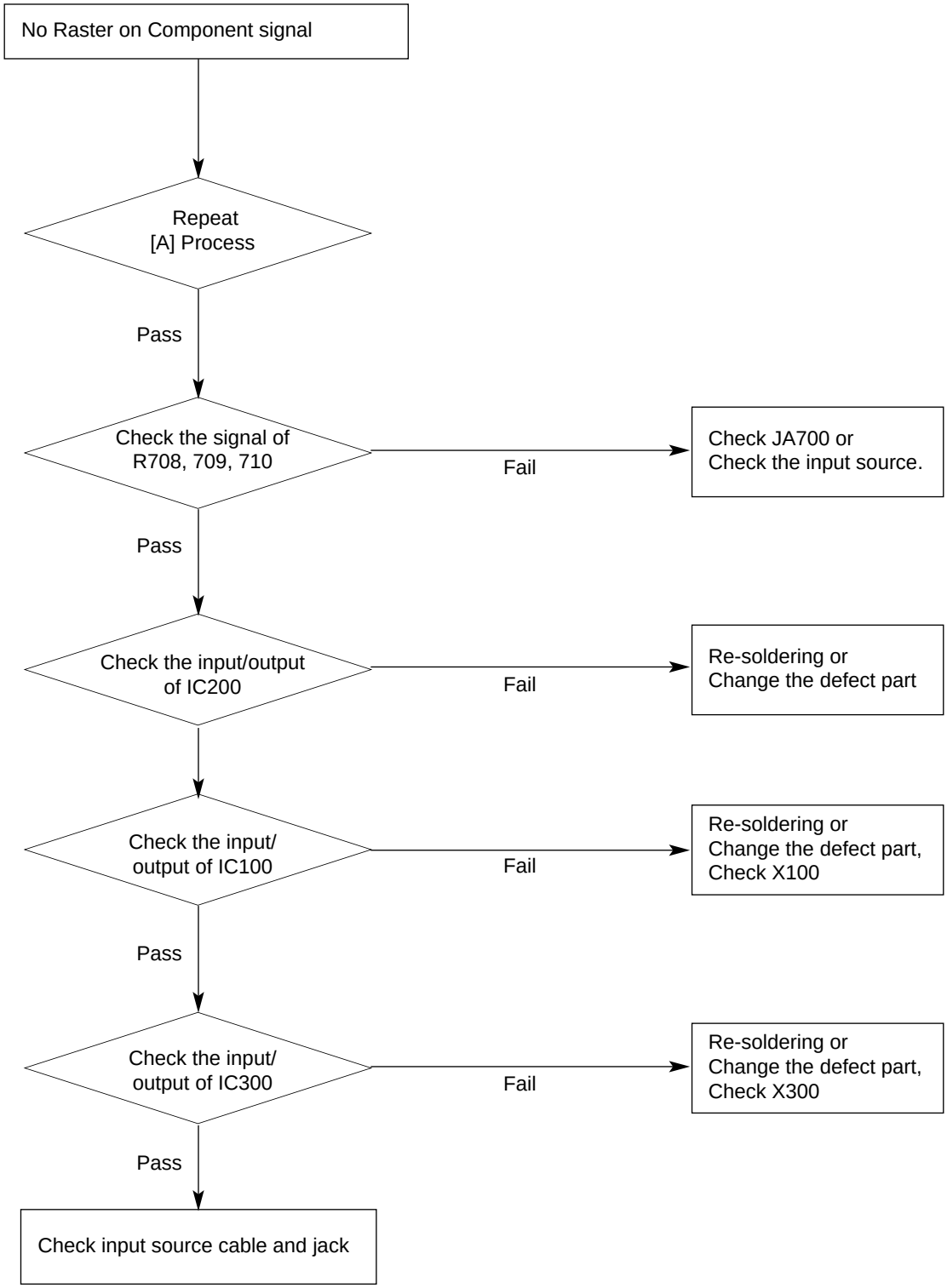
NO	KEY	FUNTION	REAMARK
1	POWER	To turn the TV on or off	
2	POWER ON	To turn the TV on automatically if the power is supplied to the TV. (Use the POWER key to deactivate): It should be deactivated when delivered.	
3	MUTE	To activate the mute function.	
4	P-CHECK	To check TV screen image easily.	Shortcut keys
5	S-CHECK	To check TV screen sound easily	Shortcut keys
6	ARC	To select size of the main screen (Normal, Spectacle, Wide or Zoom)	Shortcut keys
7	CAPTION	Switch to closed caption broadcasting	
8	TXT	To toggle on/off the teletext mode	
9	TV/AV	To select an external input for the TV screen	
10	TURBO SOUND	To start turbo sound	
11	TURBO PICTURE	To start turbo picture	
12	IN-START	To enter adjustment mode when manufacturing the TV sets.	Use the AV key to enter the screen W/B adjustment mode.
		To adjust the screen voltage (automatic): In-start → mute → Adjust → AV(Enter into W/B adjustment mode)	
		W/B adjustment (automatic): After adjusting the screen → W/B adjustment → Exit two times (Adjustment completed)	
13	ADJ	To enter into the adjustment mode. To adjust horizontal line and sub-brightness.	
14	MPX	To select the multiple sound mode (Mono, Stereo or Foreign language)	
15	EXIT	To release the adjustment mode	
16	APC(PSM)	To easily adjust the screen according to surrounding brightness	
17	ASC(SSM)	To easily adjust sound according to the program type	
18	MULTIMIDIA	To check component input	Shortcut keys
19	FRONT-AV	To check the front AV	Shortcut keys
20	CH ±	To move channel up/down or to select a function displayed on the screen.	
21	VOL ±	To adjust the volume or accurately control a specific function.	
22	ENTER	To set a specific function or complete setting.	
23	PIP CH-(OP1)	To move the channel down in the PIP screen. To use as a red key in the teletext mode	
24	PIP CH+(OP2)	To move the channel in the PIP screen To use as a green key in the teletext mode	
25	PIP SWAP(OP3)	To switch between the main and sub screens To use as a yellow key in the teletext mode	
26	PIP INPUT(OP4)	To select the input status in the PIP screen To use as a blue key in the teletext mode	
27	EYE	To set a function that will automatically adjust screen status to match the surrounding brightness so natural color can be displayed.	
28	MENU	To select the functions such as video, voice, function or channel.	
29	IN-STOP	To set the delivery condition status after manufacturing the TV set.	
30	STILL	To halt the main screen in the normal mode, or the sub screen at the PIP screen. Used as a hold key in the teletext mode (Page updating is stopped.)	
31	TIME	Displays the teletext time in the normal mode Enables to select the sub code in the teletext mode	
32	SIZE	Used as the size key in the PIP screen in the normal mode Used as the size key in the teletext mode	
33	MULTI PIP	Used as the index key in the teletext mode (Top index will be displayed if it is the top text.)	
34	POSITION	To select the position of the PIP screen in the normal mode Used as the update key in the teletext mode (Text will be displayed if the current page is updated.)	
35	MODE	Used as Mode in the teletext mode	
36	PIP	To select the simultaneous screen	
37	TILT	To adjust screen tilt	Shortcut keys
38	0~9	To manually select the channel.	

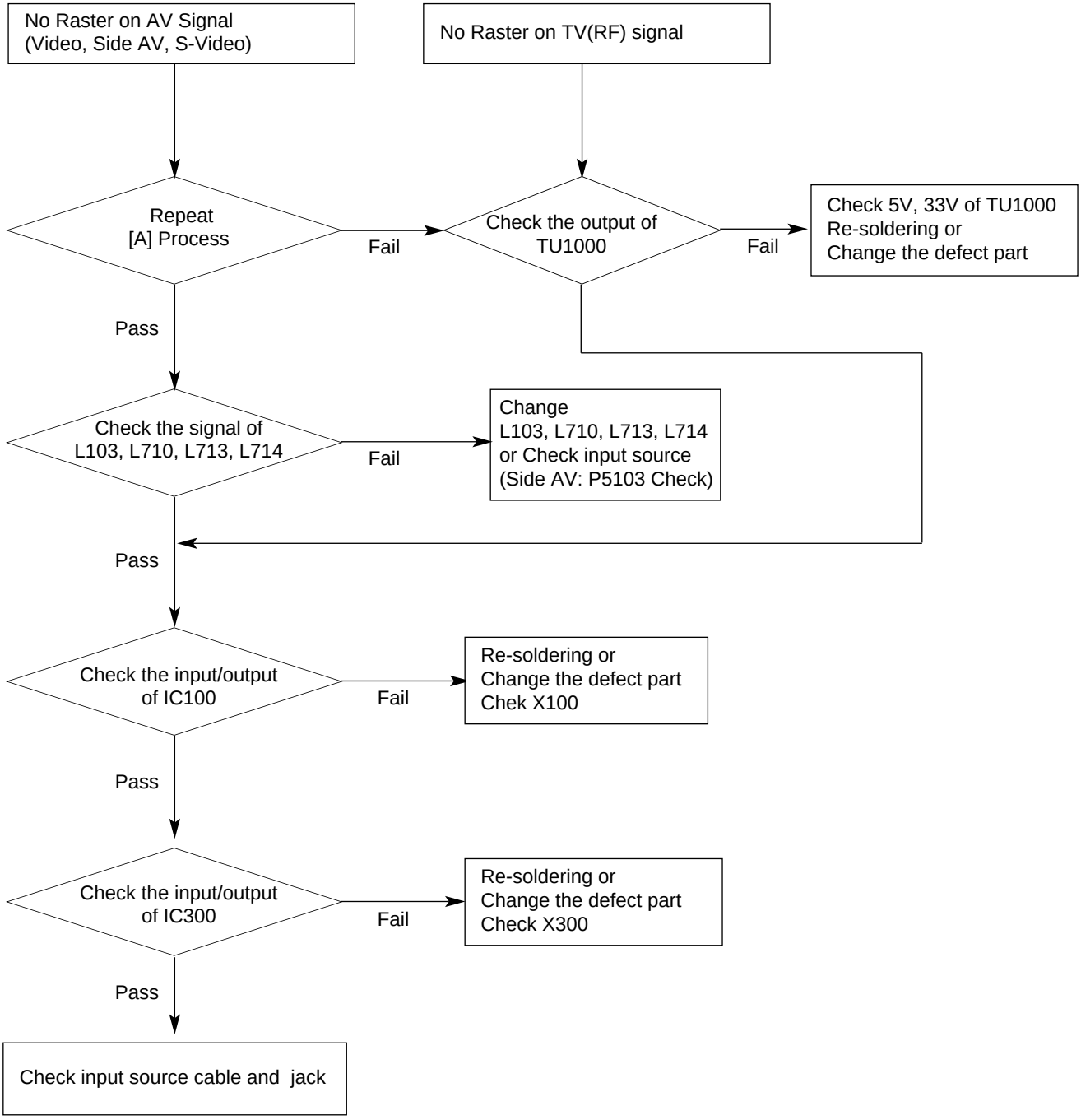


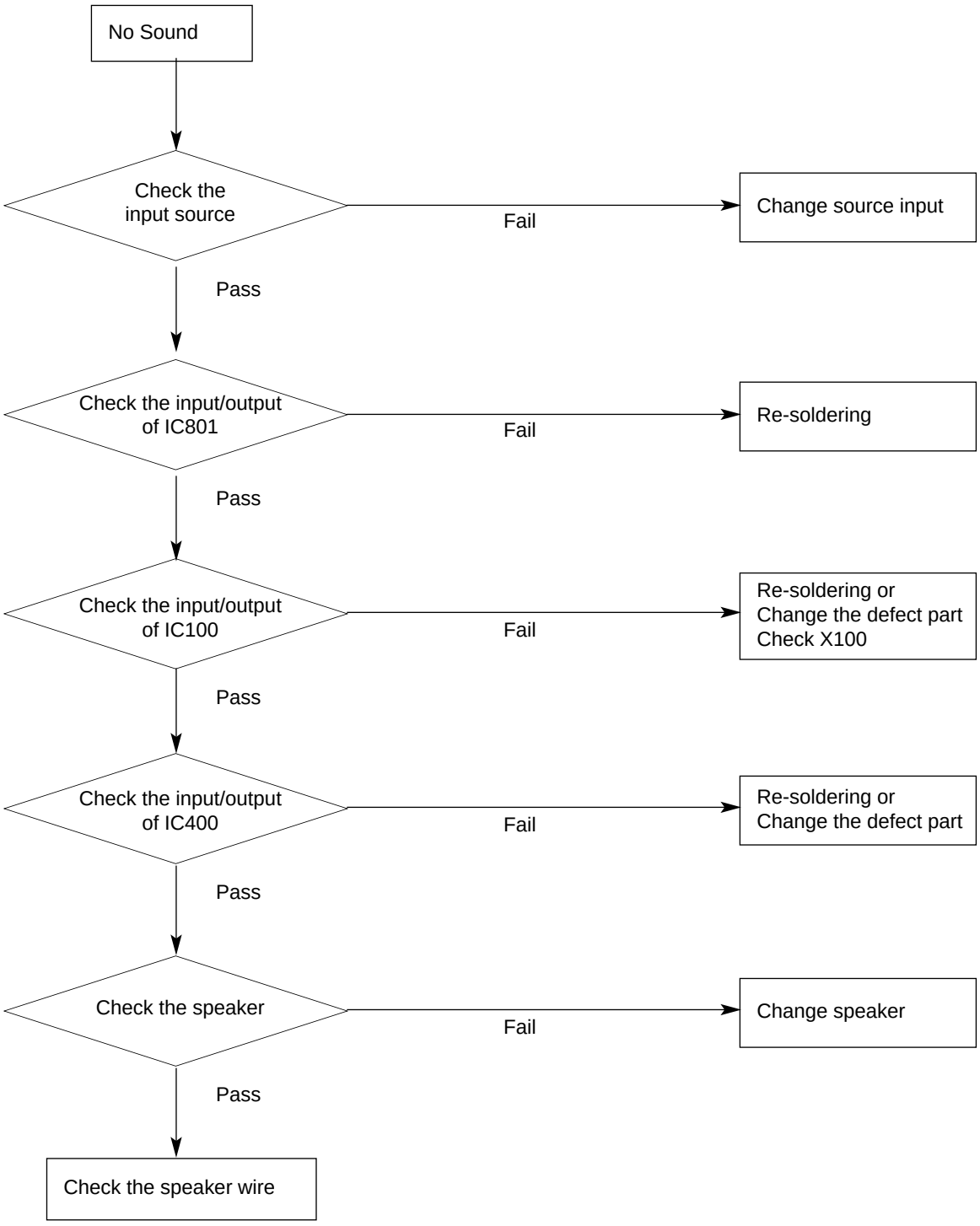
TROUBLESHOOTING



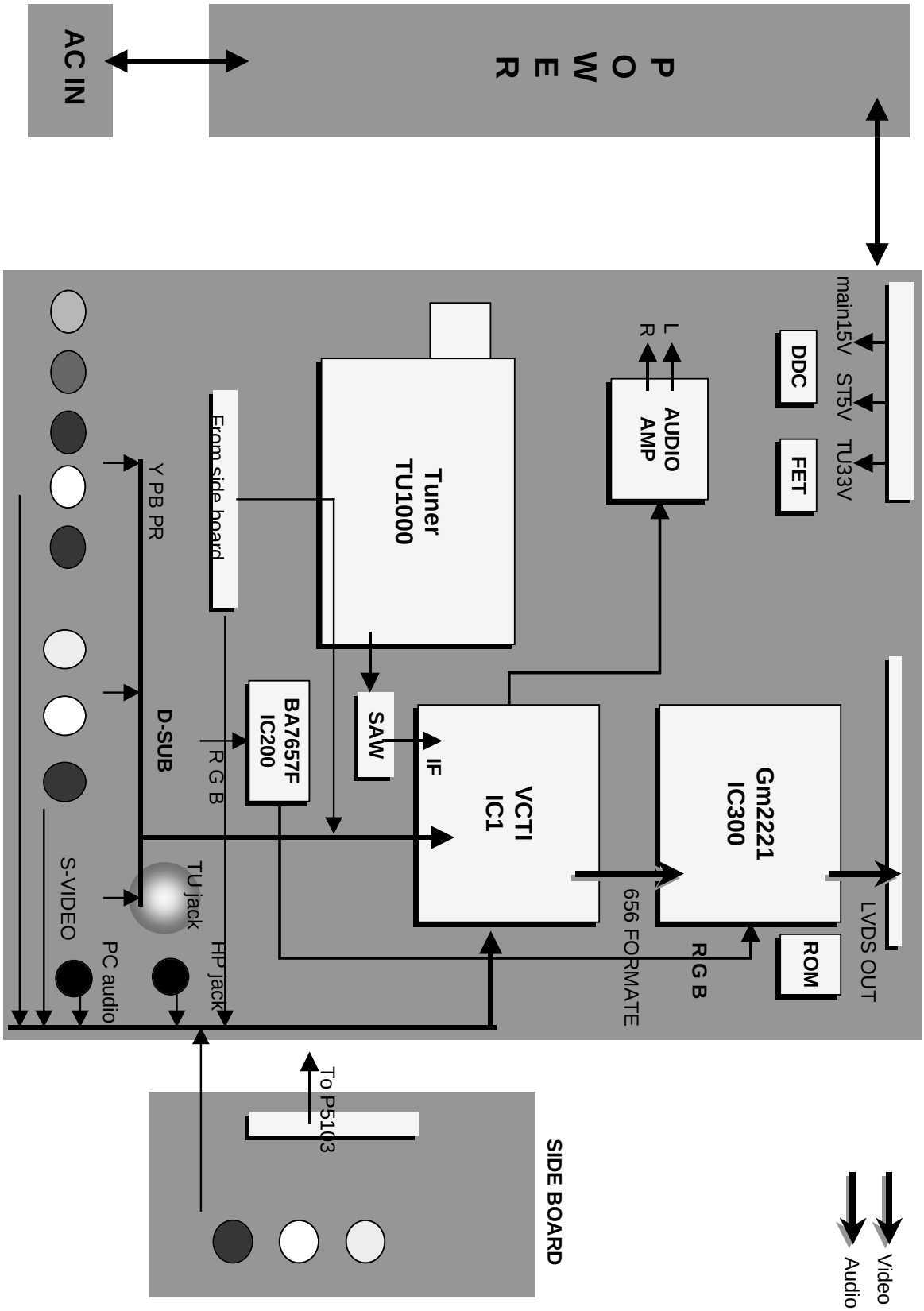

No Raster
:[B]Process
Check LED Status
on display unit
Fail
Repeat A PROCESS
Check
L300, L301, L302
Fail
Change
L300, L301, L302
Pass
Check the input/
Output of IC300
Fail
Change IC300
Pass
Check inverter
Connector or inverter
Fail
Change inverter
connector or inverter
Pass
Check panel link
Cable or module
Fail
Change panel link
cable or module
Pass
Check input source cable and jack
Fail
Change module


No Raster on Component signal
Repeat
[A] Process
Pass
Check the signal of
R708, 709, 710
Fail
Check JA700 or
Check the input source.
Pass
Check the input/output
of IC200
Fail
Re-soldering or
Change the defect part
Check the input/
output of IC100
Fail
Re-soldering or
Change the defect part,
Check X100
Pass
Check the input/
output of IC300
Fail
Re-soldering or
Change the defect part,
Check X300
Pass
Check input source cable and jack


No Raster on AV Signal
(Video, Side AV, S-Video)
No Raster on TV(RF) signal
Repeat
[A] Process
Fail
Check the output of
TU1000
Fail
Check 5V, 33V of TU1000
Re-soldering or
Change the defect part
Pass
Check the signal of
L103, L710, L713, L714
Fail
Change
L103, L710, L713, L714
or Check input source
(Side AV: P5103 Check)
Pass
Check the input/output
of IC100
Fail
Re-soldering or
Change the defect part
Chek X100
Pass
Check the input/output
of IC300
Fail
Re-soldering or
Change the defect part
Check X300
Pass
Check input source cable and jack


No Sound
Check the input source
Fail
Change source input
Pass
Check the input/output of IC801
Fail
Re-soldering
Pass
Check the input/output of IC100
Fail
Re-soldering or Change the defect part Check X100
Pass
Check the input/output of IC400
Fail
Re-soldering or Change the defect part
Pass
Check the speaker
Fail
Change speaker
Pass
Check the speaker wire

BLOCK DIAGRAM



BLOCK DIAGRAM DESCRIPTION

1. Video Controller Unit & Display Data Conversion Unit

The video controller unit receives the video signals inputted through the tuner, AV port (AV1, AV2, S-VIDEO, COMPONENT), and converts them into an analog RGB signal through the microcomputer (VCTI) combined with the video decoder that integrates various functions in one chip.

Either the analog RGB, component YPbPr or PC RGB signal is selected by the switching IC and inputted to a scaler (GM2221), which is sent to the LCD module after being modified to an LVDS signal through the integrated LCD module as a TTL output.

VCTi is the main microprocessor that handles video signal processing and sound signal processing.

It also manages the RF signals received from the tuner.

The scaler can control timing to fit into the LCD panel, and can also control the size and position of the input signal.

2. Power Supply Unit

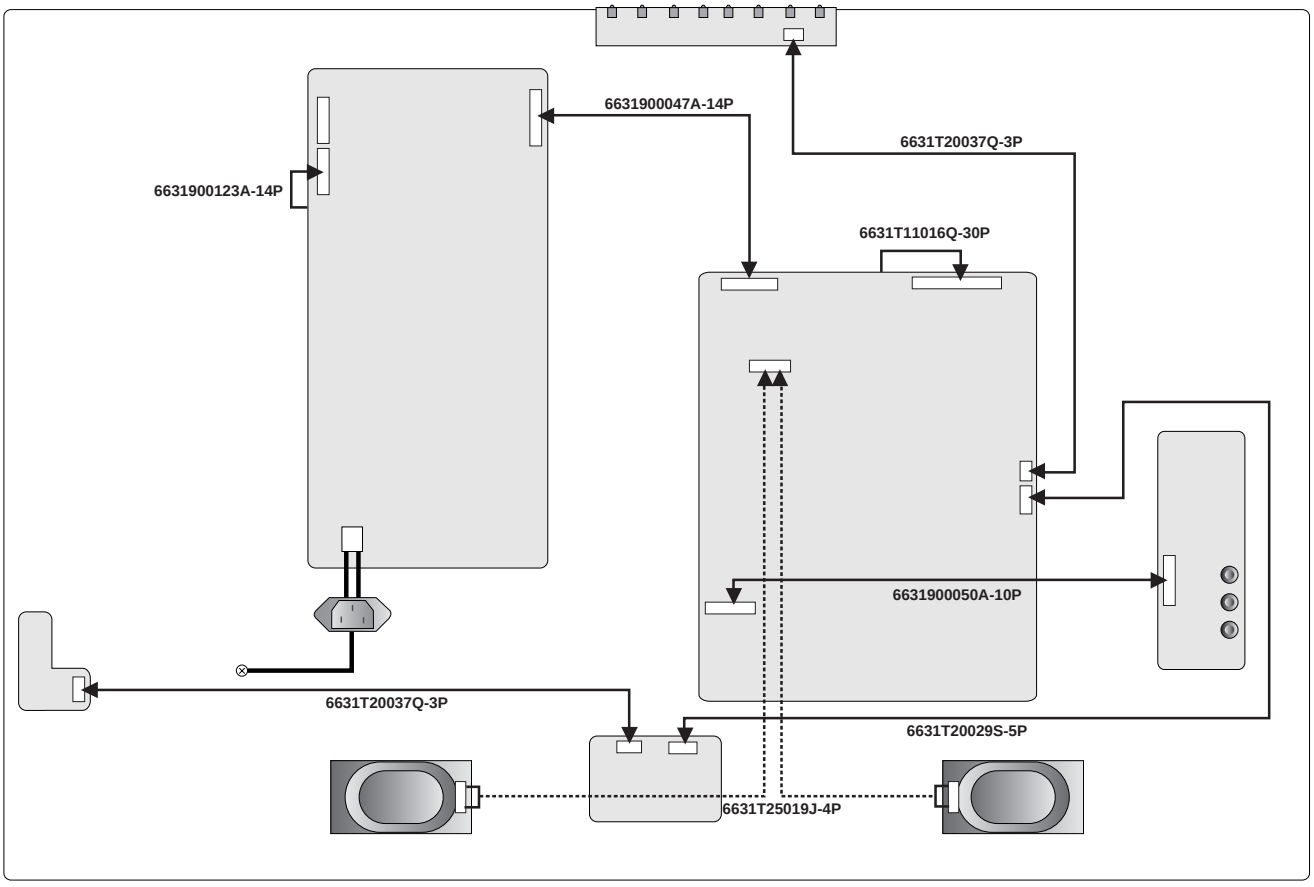
The power supply unit provides 15V and 5V DC power to the mainboard.

The PWM Step-Up DC/DC Converter circuit is used to generate the 33V used for the tuner.

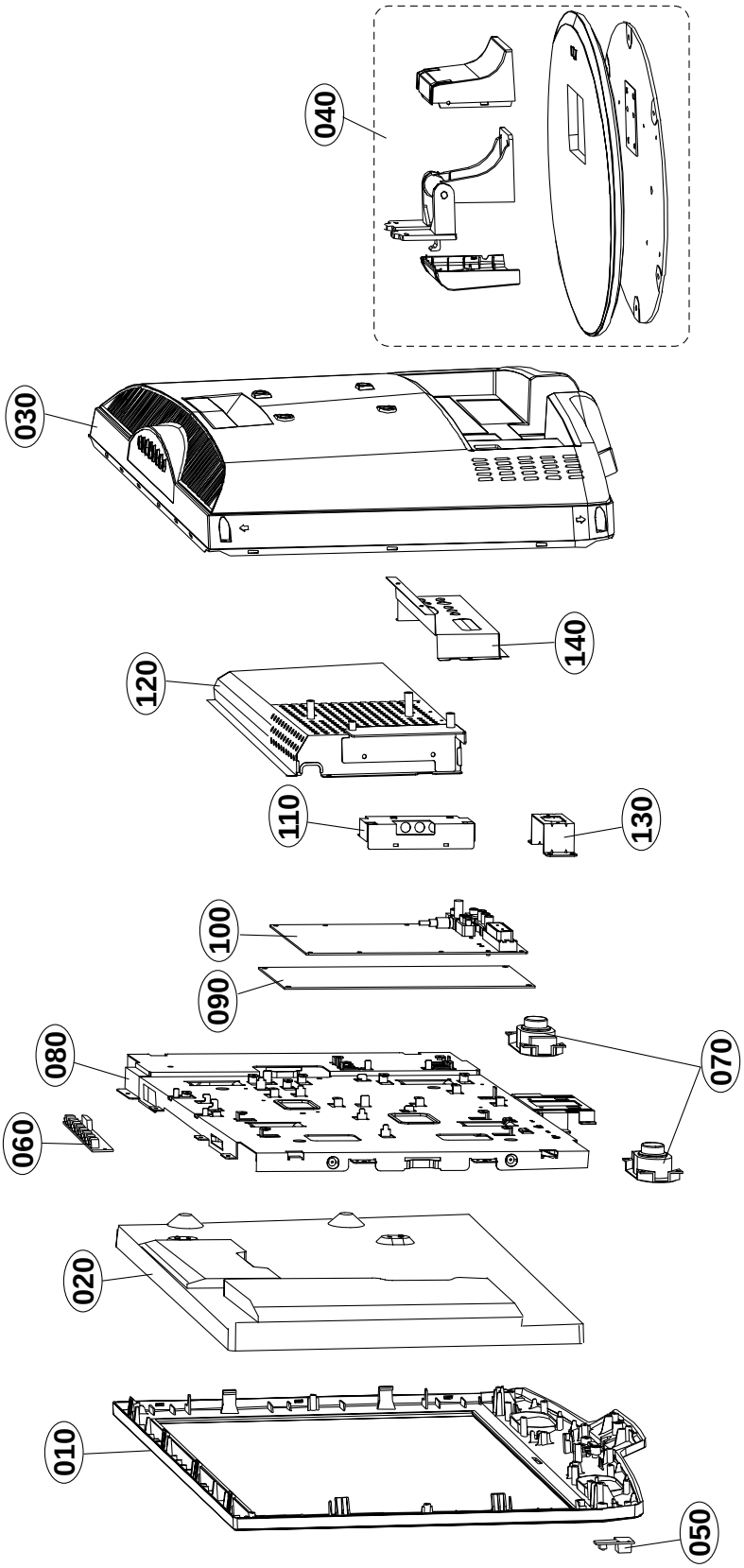
15V power is directly used by the sound amp IC and is also generate 12V and 5V power through the regulator.

12V power is used for the LCD panel power, and 5V power is converted to 3.3V and 1.8V power through the regulator, which in turn supplies electrical power for ICs such as VCTI and scaler.

WIRING DIAGRAM



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

No.	PART NO.		DESCRIPTION
010	⚠	30919E0018F	Cover Assembly, 23LC1 BRAND 3090TKL161A HIPS 405AF BLACK SPRAY C/SKD
020	⚠	6304FLP350A	LCD,Panel-TFT, LC230WX3-SLA1 23.0INCH 1365X768 450CD COLOR 72% -
030	⚠	3809900116F	Cover Assembly, 23LC1RB-MB 2PHONE USA 405AF C/SKD
040	⚠	3043900010D	Base Assembly, 23LC1R . HINGE ASSY C/SKD
050		68719ST799C	PCB Assembly,Sub, SUB T.T CL81 LC1R ALEULFX LED+IR
060		68719STA38A	PCB Assembly,Sub, SUB T.T ML041E 23LC1R CONTROL TOTAL ASSY
070		6400GKTX01B	Speaker,Fullrange, F1527C-6428-2 FERRITE 7W 8OHM 84DB 210HZ 71X41X28mM LUG
080		49519S0032B	Plate Assembly, FRAME 49509S0031, 23LC1R NARROW C/SKD
090	⚠	6871TPT326E	PCB Assembly,Power, POWER T.T TOTAL 23LC1 BLUE BIRD 23INCH WAFER
100	⚠	33139N2028A	Main Total Assembly, 23LC1R-ME(NTSC) BRAND ML-041E CI CHASSIS
110		68719ST107B	PCB Assembly,Sub, SUB T.T ML041E 23LC1R-MB(CI) NTSC SIDE A/V ASSY
120		49519K0114B	Plate Assembly, REAR SHIELD 23LC1 ASSY C/SKD
130		31419SN840C	Chassis Assembly, SUB CL81 SKD-AC SOCKET ASSEMBLY
140		49519K0117K	Plate Assembly, SHIELD 23LC1R-MB(NTSC) AV SHIELD

REPLACEMENT PARTS LIST

For Capacitor & Resistors, the charactors at 2nd and 3rd digit in the P/No. means as follows;

CC, CX, CK, CN, CH : Ceramic
CQ : Polyestor
CE : Electrolytic
CF : Fixed Film

RD : Carbon Film
RS : Metal Oxide Film
RN : Metal Film
RH : CHIP, Metal Glazed(Chip)
RR : Drawing

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		MAIN BOARD		
		CAPACITOR		
		C118	0CE475WJ6DC	MVK4.0TP35VC4.7M 4.7uF 20%
		C123	0CE475WJ6DC	MVK4.0TP35VC4.7M 4.7uF 20%
		C158	0CH8106F691	MVK4.0TP16VC10M 10uF 20% 16
		C200	0CH8106F691	MVK4.0TP16VC10M 10uF 20% 16
		C201	0CH8106F691	MVK4.0TP16VC10M 10uF 20% 16
		C202	0CH8106F691	MVK4.0TP16VC10M 10uF 20% 16
		C210	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C215	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C355	0CE107WH6DC	MVK8.0TP25VC100M 100uF 20%
		C403	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C404	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C406	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C407	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C427	0CE107WH6DC	MVK8.0TP25VC100M 100uF 20%
		C601	0CE107WH6DC	MVK8.0TP25VC100M 100uF 20%
		C603	0CE107WH6DC	MVK8.0TP25VC100M 100uF 20%
		C604	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C607	0CE227WF6DC	MVK8.0TP16VC220M 220uF 20%
		C610	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C613	0CE107WH6DC	MVK8.0TP25VC100M 100uF 20%
		C615	0CE476WF6DC	MVK6.3TP16VC47M 47uF 20% 16
		C616	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C622	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C624	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C700	0CE107WF6DC	MVK6.3TP16VC100M 100uF 20%
		C701	0CH8106F691	MVK4.0TP16VC10M 10uF 20% 16
		C702	0CH8106F691	MVK4.0TP16VC10M 10uF 20% 16
		C703	0CH8106F691	MVK4.0TP16VC10M 10uF 20% 16
		C808	0CH8106J691	MVK5.0TP35VC10M 10uF 20% 35
		C810	0CE475WJ6DC	MVK4.0TP35VC4.7M 4.7uF 20%
		C811	0CE475WJ6DC	MVK4.0TP35VC4.7M 4.7uF 20%
		C812	0CE475WJ6DC	MVK4.0TP35VC4.7M 4.7uF 20%
		C813	0CE475WJ6DC	MVK4.0TP35VC4.7M 4.7uF 20%
		C107	0CE108DD618	SMS5.0TP10VB1000M 1000uF 20
		C606	0CE227BH638	KME5.0TP25VB220M 220uF 20%
		C617	0CE477BH618	ESM477M025T1G5H15G 470uF 20
		C620	0CE477BD618	ESM477M010T6G5G11G 470uF 20
		C630	0CE108EF618	KMG5.0TP16VB1000M 1000uF 20
		C632	0CE107BK638	KME5.0TP50VB100M 100uF 20%
		C100	0CK273CK56A	0603B273K500CT 27nF 10% 50V
		C101	0CC390CK41A	C1608C0G1H390JT 39pF 5% 50V
		C102	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C103	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C104	0CC390CK41A	C1608C0G1H390JT 39pF 5% 50V
		C105	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C108	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C109	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C110	0CC330CK41A	C1608C0G1H330JT 33pF 5% 50V
		C111	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C112	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C113	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C114	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C115	0CK104CK56A	0603B104K500CT 100nF 10% 50

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C116	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C117	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C120	0CC390CK41A	C1608C0G1H390JT 39pF 5% 50V
		C121	0CC390CK41A	C1608C0G1H390JT 39pF 5% 50V
		C122	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C124	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C125	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C126	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C128	0CK822CK56A	C1608X7R1H822KT 8.2nF 10% 5
		C129	0CK822CK56A	C1608X7R1H822KT 8.2nF 10% 5
		C130	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C131	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C132	0CK334CF94A	C1608Y5V1C334ZT 330nF -20TO
		C133	0CK334CF94A	C1608Y5V1C334ZT 330nF -20TO
		C134	0CK334CF94A	C1608Y5V1C334ZT 330nF -20TO
		C135	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C139	0CK334CF94A	C1608Y5V1C334ZT 330nF -20TO
		C140	0CK334CF94A	C1608Y5V1C334ZT 330nF -20TO
		C141	0CK334CF94A	C1608Y5V1C334ZT 330nF -20TO
		C142	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C143	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C144	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C145	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C146	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C147	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C148	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C149	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C150	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C151	0CC220CK41A	C1608C0G1H220JT 22pF 5% 50V
		C152	0CC220CK41A	C1608C0G1H220JT 22pF 5% 50V
		C154	0CK105DK94A	0805F105Z500CT 1uF -20TO+80
		C155	0CC270CK41A	C1608C0G1H270JT 27pF 5% 50V
		C156	0CC150CK41A	C1608C0G1H150JT 15pF 5% 50V
		C157	0CC120CK41A	C1608C0G1H120JT 12pF 5% 50V
		C160	0CK471CK56A	C1608X7R1H471KT 470pF 10% 5
		C161	0CK471CK56A	C1608X7R1H471KT 470pF 10% 5
		C206	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C207	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C208	0CK225DK94A	CL21F225ZBFNNNE 2.2uF -20TO
		C209	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C211	0CK225DK94A	CL21F225ZBFNNNE 2.2uF -20TO
		C212	0CK471CK56A	C1608X7R1H471KT 470pF 10% 5
		C213	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C214	0CK225DH94A	C2012Y5V225ZFT 2.2uF -20TO+
		C216	0CK105DK94A	0805F105Z500CT 1uF -20TO+80
		C300	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C301	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C302	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C303	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C304	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C305	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C306	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C307	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C308	0CK104CK56A	0603B104K500CT 100nF 10% 50

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C310	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C311	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C312	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C313	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C314	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C315	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C316	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C317	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C318	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C319	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C320	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C321	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C322	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C323	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C324	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C325	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C326	0CC080CK11A	C1608C0G1H080DT 8pF 0.5PF 5
		C327	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C328	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C329	0CC080CK11A	C1608C0G1H080DT 8pF 0.5PF 5
		C330	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C331	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C332	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C333	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C334	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C335	0CC680CK41A	C1608C0G1H680JT 68pF 5% 50V
		C336	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C337	0CC680CK41A	C1608C0G1H680JT 68pF 5% 50V
		C338	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C339	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C340	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C341	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C342	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C343	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C344	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C345	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C346	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C347	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C348	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C349	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C350	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C352	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C357	0CK102CK56A	0603B102K500CT 1nF 10% 50V
		C400	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C401	0CK225DH94A	C2012Y5V225ZFT 2.2uF -20TO+
		C402	0CK225DH94A	C2012Y5V225ZFT 2.2uF -20TO+
		C405	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C408	0CK102CK56A	0603B102K500CT 1nF 10% 50V
		C409	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C410	0CK102CK56A	0603B102K500CT 1nF 10% 50V
		C411	0CK105DK94A	0805F105Z500CT 1uF -20TO+80
		C412	0CK105DK94A	0805F105Z500CT 1uF -20TO+80
		C413	0CK105DK94A	0805F105Z500CT 1uF -20TO+80
		C414	0CK105DK94A	0805F105Z500CT 1uF -20TO+80
		C415	0CK105DK94A	0805F105Z500CT 1uF -20TO+80
		C416	0CK225DH94A	C2012Y5V225ZFT 2.2uF -20TO+
		C417	0CK224DH56A	0805B224K250CT 220nF 10% 25
		C418	0CK224DH56A	0805B224K250CT 220nF 10% 25
		C419	0CK225DH94A	C2012Y5V225ZFT 2.2uF -20TO+
		C420	0CK224DH56A	0805B224K250CT 220nF 10% 25
		C421	0CK225DH94A	C2012Y5V225ZFT 2.2uF -20TO+
		C422	0CK225DH94A	C2012Y5V225ZFT 2.2uF -20TO+

DATE: 2006. 04. 26.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C423	0CK224DH56A	0805B224K250CT 220nF 10% 25
		C424	0CK105DK94A	0805F105Z500CT 1uF -20TO+80
		C425	0CK105DK94A	0805F105Z500CT 1uF -20TO+80
		C426	0CK105DK94A	0805F105Z500CT 1uF -20TO+80
		C428	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C429	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C430	0CC221CK41A	C1608C0G1H221JT 220pF 5% 50
		C431	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C432	0CK225DH94A	C2012Y5V225ZFT 2.2uF -20TO+
		C433	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C434	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C435	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C436	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C437	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C438	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C439	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C440	0CK225DK94A	CL21F225ZBFNNNE 2.2uF -20TO
		C502	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C503	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C508	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C509	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C602	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C605	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C621	0CK474CH94A	0603F474Z250CT 470nF -20TO+
		C623	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C628	0CK222CK51A	0603B222K500CT 2.2nF 10% 50
		C629	0CK226FF67A	EMK325BJ226MM-T 22uF 20% 16
		C709	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C710	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C711	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C712	0CC102CK41A	C1608C0G1H102JT 1nF 5% 50V
		C713	0CC331CK41A	C1608C0G1H331JT 330pF 5% 50
		C714	0CC331CK41A	C1608C0G1H331JT 330pF 5% 50
		C715	0CC331CK41A	C1608C0G1H331JT 330pF 5% 50
		C716	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C717	0CC331CK41A	C1608C0G1H331JT 330pF 5% 50
		C806	0CK103CK51A	0603B103K500CT 10nF 10% 50V
		C809	0CK104CK56A	0603B104K500CT 100nF 10% 50
		C814	0CK474CH94A	0603F474Z250CT 470nF -20TO+
DIODEs				
		D600	0DR340009AA	MBRS340 525MV 40V 4A - - -
		D400	0DS181009AA	KDS181 1.2V 85V 300MA 2A 4N
		D401	0DS181009AA	KDS181 1.2V 85V 300MA 2A 4N
		ZD500	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD501	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD502	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD503	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD504	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD505	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD506	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD507	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD508	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD509	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD510	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD705	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD706	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD707	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD712	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD713	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD714	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
IC				
		IC801	0ISA722200C	"LA7222-(E),LF 8TO13V - - 35"
		IC200	0IRH765700B	BA7657F 4.5TO5.5V - - 550MW
		IC401	0IPRPTI034B	"TPA6110A2DGNRG4,LF 2.5TO5.5"
		IC501	0ISTL00026A	MC14066BDR2G 3TO18V 0.001mA
		IC607	0IMCRMZ001A	"MP1583DN-Z,LF 4.75TO23V 21V"
		IC101	0IMCRAL006A	AT24C16AN-10SU-2.7 16KBIT 2
		IC301	0IMCRAL006A	AT24C16AN-10SU-2.7 16KBIT 2
		IC500	0IMMRSG036A	M24C02-WMN6TP 2KBIT 256X8BI
		IC600	0IPMG78341A	"AZ1085S-3.3TR/E1,LF 12V 3.3"
		IC603	0IPMGKE041A	KIA78R12F 13TO29V 12V 8W DP
		IC604	0IPMGSG018D	LD1086DT18TR-LF 30V 1.8V -
		IC605	0IPMG78341A	"AZ1085S-3.3TR/E1,LF 12V 3.3"
		IC606	0IPMGSG020A	LD1117DT18TR 3.3TO8V 1.8V 1
		IC300	0IPRPGN015C	GM2221-LF-BC 3.15TO3.45V_1.
		IC400	0IPRP00522A	TPA3008D2PHPRG4 8.5TO18V -
		IC100	0IPRPMN003G	"VCT49X3F-F2,LF 7.6VTO8.7V,4"
		IC102	0IKE702700D	KIA7027AF -0.3TO15V 2.7V 50
		IC602	0IPMG00003A	KIA78M08F 10.5TO23V 8V 1.3W
COIL & FILTER & INDUCTOR				
		L401	61409B0002A	DBF-1030A 30uH - 2.5A 10.8X
		L402	61409B0002A	DBF-1030A 30uH - 2.5A 10.8X
		L404	61409B0002A	DBF-1030A 30uH - 2.5A 10.8X
		L405	61409B0002A	DBF-1030A 30uH - 2.5A 10.8X
		L200	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L300	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L302	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L303	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L400	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L403	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L406	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L407	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L408	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L409	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L410	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L411	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L412	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L413	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L500	6210TCE001A	HB-1S2012-080JT 8OHM 2X1.25
		L600	6210TCE001A	HB-1S2012-080JT 8OHM 2X1.25
		L601	6210TCE001G	HH-1M3216-501JT 500OHM 3.2X
		L708	6210TCE001A	HB-1S2012-080JT 8OHM 2X1.25
		L709	6210TCE001A	HB-1S2012-080JT 8OHM 2X1.25
		L710	6210TCE001A	HB-1S2012-080JT 8OHM 2X1.25
		L711	6210TCE001A	HB-1S2012-080JT 8OHM 2X1.25
		L102	6200QL3002Q	X6964D 43.75MHZ 13.7X2.4X4.
		L100	0LC1032101A	FI-C3216-103KJT 10UH 10% -
		L101	0LC1020101A	FI-B2012-102KJT 1UH 10% - 1
		L103	0LC1532101A	FI-C3216-153KJT 15UH 10% -
		L104	0LC1532101A	FI-C3216-153KJT 15UH 10% -
		L105	0LC1532101A	FI-C3216-153KJT 15UH 10% -
		L501	0LC0233002A	FI-B2012-332KJT 3.3UH 10% -
		L502	0LC0233002A	FI-B2012-332KJT 3.3UH 10% -
		L712	0LC0233002A	FI-B2012-332KJT 3.3UH 10% -
		L713	0LC0233002A	FI-B2012-332KJT 3.3UH 10% -
		L714	0LC0233002A	FI-B2012-332KJT 3.3UH 10% -
		L602	6140VR0008B	SLF12575T-150M4R7 15UH 20%

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
TRANSISTOR				
		Q603	0TF492509AA	SI4925DY P-CHANNEL -30V +-2
		Q101	0TR388109AA	KTC3881 NPN 4V 30V 25V 50MA
		Q103	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q302	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q400	0TRIH80002A	2SA1530A-T112-1R PNP -6V -6
		Q401	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q402	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q403	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q404	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q602	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q605	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q606	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q700	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q701	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q702	0TR390409AE	KST3904 NPN 6V 60V 40V 200M
		Q703	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q704	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q705	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
		Q706	0TRIY80001A	2SC3052 NPN 6V 50V 50V 200M
RESISTORs				
		R102	0RJ0562D677	MCR03EZPJ560 56OHM 5% 1/10W
		R103	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R104	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R105	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R106	0RJ7502D677	MCR03EZPJ753 75KOHM 5% 1/10
		R107	0RJ7501D677	MCR03EZPJ752 7.5KOHM 5% 1/1
		R108	0RJ8200D677	MCR03EZPJ821 820OHM 5% 1/10
		R109	0RJ1501D677	MCR03EZPJ152 1.5KOHM 5% 1/1
		R111	0RJ3000D677	MCR03EZPJ301 300OHM 5% 1/10
		R112	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R113	0RJ0682D677	MCR03EZPJ680 68OHM 5% 1/10W
		R114	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R118	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R121	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R122	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R123	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R124	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R125	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R126	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R127	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R128	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R129	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R130	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R131	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R133	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R134	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R135	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R136	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R137	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R138	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R140	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R142	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R143	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R144	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R145	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R146	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R147	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R149	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R150	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R151	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R152	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R153	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R154	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R155	0RJ2202D677	MCR03EZPJ223 22KOHM 5% 1/10
		R156	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R157	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R158	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R165	0RJ6800D677	MCR03EZPJ681 680OHM 5% 1/10
		R166	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R167	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R168	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R170	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R171	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R172	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R188	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R200	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R209	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R210	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R211	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R212	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R213	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R214	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R215	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R216	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R217	0RJ5902C477	MCR03EZPF5902 59KOHM 1% 1/1
		R218	0RJ2001D677	MCR03EZPJ202 2KOHM 5% 1/10W
		R219	0RJ5101D677	MCR03EZPJ512 5.1KOHM 5% 1/1
		R220	0RJ1501D677	MCR03EZPJ152 1.5KOHM 5% 1/1
		R300	0RJ0472D677	MCR03EZPJ470 47OHM 5% 1/10W
		R301	0RJ0472D677	MCR03EZPJ470 47OHM 5% 1/10W
		R302	0RJ0472D677	MCR03EZPJ470 47OHM 5% 1/10W
		R303	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R304	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R305	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R306	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R307	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R308	0RJ3600D477	MCR03EZPF361 360OHM 1% 1/10
		R309	0RJ3600D477	MCR03EZPF361 360OHM 1% 1/10
		R310	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R312	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R313	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R314	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R315	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R316	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R317	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R319	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R322	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R323	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R324	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R325	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R326	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R327	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R328	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R329	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R330	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R331	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R332	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R335	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R338	0RJ5600D677	MCR03EZPJ561 560OHM 5% 1/10
		R350	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R351	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R352	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R401	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R403	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R404	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R405	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R406	0RJ7501D677	MCR03EZPJ752 7.5KOHM 5% 1/1
		R408	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R410	0RJ7501D677	MCR03EZPJ752 7.5KOHM 5% 1/1
		R411	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R412	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R413	0RJ2701D677	MCR03EZPJ272 2.7KOHM 5% 1/1
		R414	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R415	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R416	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R417	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R419	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R421	0RJ1203D677	MCR03EZPJ124 120KOHM 5% 1/1
		R430	0RJ1003D677	MCR03EZPJ104 100KOHM 5% 1/1
		R431	0RJ1500D677	MCR03EZPJ151 150OHM 5% 1/10
		R434	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R435	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R436	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R437	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R500	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R501	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R502	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R503	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R504	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R505	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R506	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R507	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R508	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R509	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R510	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R511	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R512	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R513	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R514	0RJ3301D677	MCR03EZPJ332 3.3KOHM 5% 1/1
		R515	0RJ2001D677	MCR03EZPJ202 2KOHM 5% 1/10W
		R516	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R518	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R519	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R520	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R521	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R522	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R523	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R524	0RJ5101D677	MCR03EZPJ512 5.1KOHM 5% 1/1
		R525	0RJ5101D677	MCR03EZPJ512 5.1KOHM 5% 1/1
		R528	0RJ0472G676	MCR18EZHJ470 47OHM 5% 1/4W
		R529	0RJ0472G676	MCR18EZHJ470 47OHM 5% 1/4W
		R530	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R531	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R602	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R603	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R608	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		R610	0RJ6801D477	MCR03EZPF682 6.8KOHM 1% 1/1
		R611	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R614	0RJ2202D677	MCR03EZPJ223 22KOHM 5% 1/10
		R615	0RJ7501D677	MCR03EZPJ752 7.5KOHM 5% 1/1
		R616	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R617	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R620	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1

DATE: 2006. 04. 26.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R621	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R700	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R701	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R702	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R704	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R706	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R707	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R708	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R709	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		R710	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R712	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R713	0RJ5101D677	MCR03EZPJ512 5.1KOHM 5% 1/1
		R714	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R715	0RJ5101D677	MCR03EZPJ512 5.1KOHM 5% 1/1
		R716	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R717	0RJ5101D677	MCR03EZPJ512 5.1KOHM 5% 1/1
		R718	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R719	0RJ5101D677	MCR03EZPJ512 5.1KOHM 5% 1/1
		R720	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R721	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R722	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R723	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R724	0RJ0472D677	MCR03EZPJ470 47OHM 5% 1/10W
		R725	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R726	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R727	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R728	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R729	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R730	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R731	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R732	0RJ1002D677	MCR03EZPJ103 10KOHM 5% 1/10
		R733	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R734	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R735	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R736	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R808	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R809	0RJ0752D677	MCR03EZPJ750 75OHM 5% 1/10W
		R813	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R814	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R815	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R816	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R817	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R818	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		R819	0RJ4702D677	MCR03EZPJ473 47KOHM 5% 1/10
		R820	0RJ1000D677	MCR03EZPJ101 100OHM 5% 1/10
		RR608	0RJ4701D677	MCR03EZPJ472 4.7KOHM 5% 1/1
		OTHERs		
		R600	0RX0912K665	RSD02F4J91R0 91OHM 5% 2W 12
		IC302	6620F00017A	CCSD-32T-SM 32P 1.27MM SMD
		X100	6202TST003C	HC-49/SM5H 20.25MHZ 50PPM 2
		X300	6202VDT002B	SX-1 14.31818MHZ 30PPM 14.3
		TU1000	6700NFNS11J	TAEA-H051P NTSC 55.25HZTO3.
		LED+IR BOARD		
		ZD504	0DZ560009CF	MTZJ5.6B 5.6V 5.45TO5.73V 4
		U501	6712SCA232A	TSOP34838SO1 2.7TO5.5V 1.5M
		LED551	0DLBE0048AA	BL-HKBB533B-TRB SUPER YELLO
		LED552	0DLBE0048AA	BL-HKBB533B-TRB SUPER YELLO
		Q551	0TR390409AE	KST3904 NPN 6V 60V 40V 200M

DATE: 2006. 04. 26.

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		R551	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R552	0RJ3001D677	MCR03EZPJ302 3KOHM 5% 1/10W
		R553	0RJ1001D677	MCR03EZPJ102 1KOHM 5% 1/10W
		R554	0RJ3001D677	MCR03EZPJ302 3KOHM 5% 1/10W
		ZD501	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD502	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD503	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD504	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		ZD505	0DZ560009DA	UDZS5.6B 5.6V 5.49TO5.73V 6
		CONTROL BOARD		
		R502	0RN2201F409	RN-96T1F2K20 2.2KOHM 1% 1/6
		R503	0RN8200F409	RN-96T1F820R 820OHM 1% 1/6W
		R504	0RN1501F409	RN-96T1F1K50 1.5KOHM 1% 1/6
		R505	0RN1501F409	RN-96T1F1K50 1.5KOHM 1% 1/6
		R507	0RN8200F409	RN-96T1F820R 820OHM 1% 1/6W
		R508	0RN2201F409	RN-96T1F2K20 2.2KOHM 1% 1/6
		SW501	140-058B	EVQPB205K 1C1P 15VDC 0.02A
		SW502	140-058B	EVQPB205K 1C1P 15VDC 0.02A
		SW503	140-058B	EVQPB205K 1C1P 15VDC 0.02A
		SW504	140-058B	EVQPB205K 1C1P 15VDC 0.02A
		SW505	140-058B	EVQPB205K 1C1P 15VDC 0.02A
		SW506	140-058B	EVQPB205K 1C1P 15VDC 0.02A
		SW507	140-058B	EVQPB205K 1C1P 15VDC 0.02A
		SW508	140-058B	EVQPB205K 1C1P 15VDC 0.02A
		ZD502	0DZ560009CF	MTZJ5.6B 5.6V 5.45TO5.73V 4
		ZD505	0DZ560009CF	MTZJ5.6B 5.6V 5.45TO5.73V 4
		SIDE A/V BOARD		
		L5101	6210TCE001A	HB-1S2012-080JT 8OHM 2X1.25
		L5102	6210TCE001A	HB-1S2012-080JT 8OHM 2X1.25
		R5101	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R5104	0RJ0822D677	MCR03EZPJ820 82OHM 5% 1/10W
		R5107	0RJ0222D677	MCR03EZPJ220 22OHM 5% 1/10W
		R5108	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R5109	0RJ4703D677	MCR03EZPJ474 470KOHM 5% 1/1
		R5110	0RJ0000D677	MCR03EZPJ000 0OHM 5% 1/10W
		ZD5103	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
		ZD5104	0DZ510009EE	UDZS5.1B 5.1V 4.98TO5.2V 80
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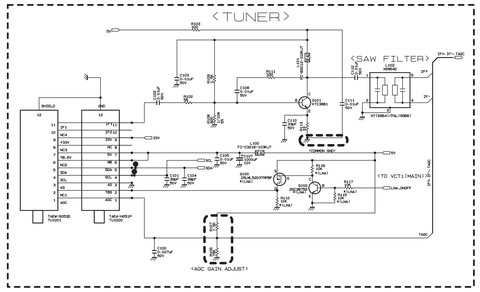
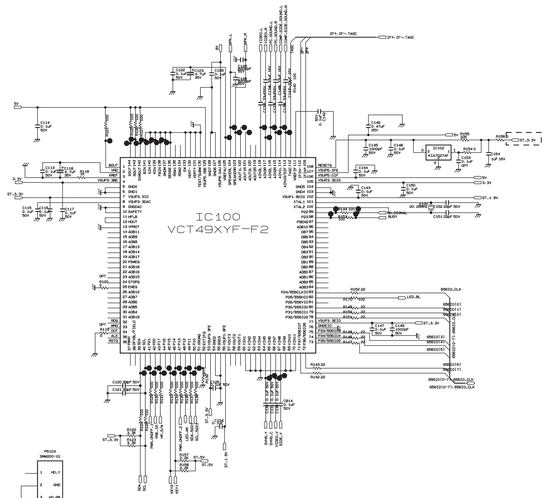
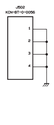
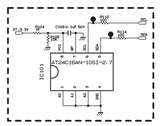
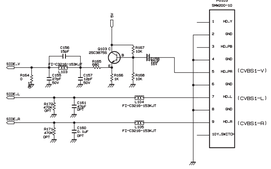
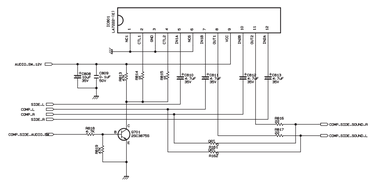




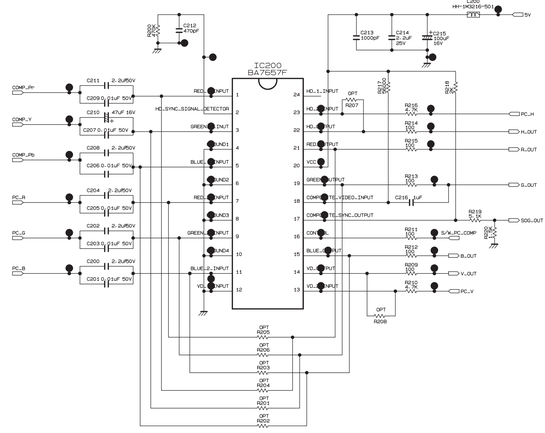








THE ⚠ SYMBOL MARK OF THIS SCHEMETIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION. FILRE AND ELECTRICAL SHOCK HAZARDS. WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFATURES SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE ⚠ SYMBOL MARK OF THE SCHEMETIC.



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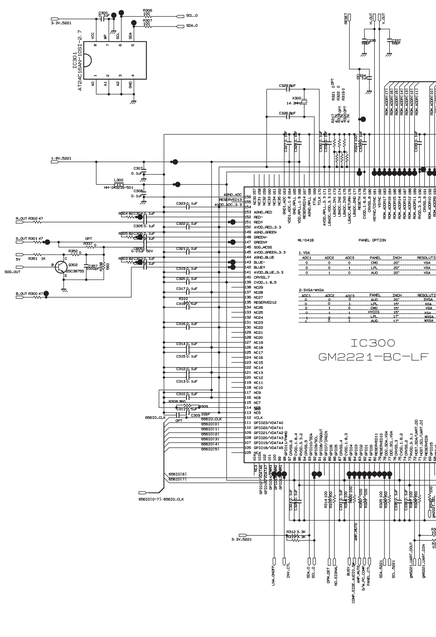

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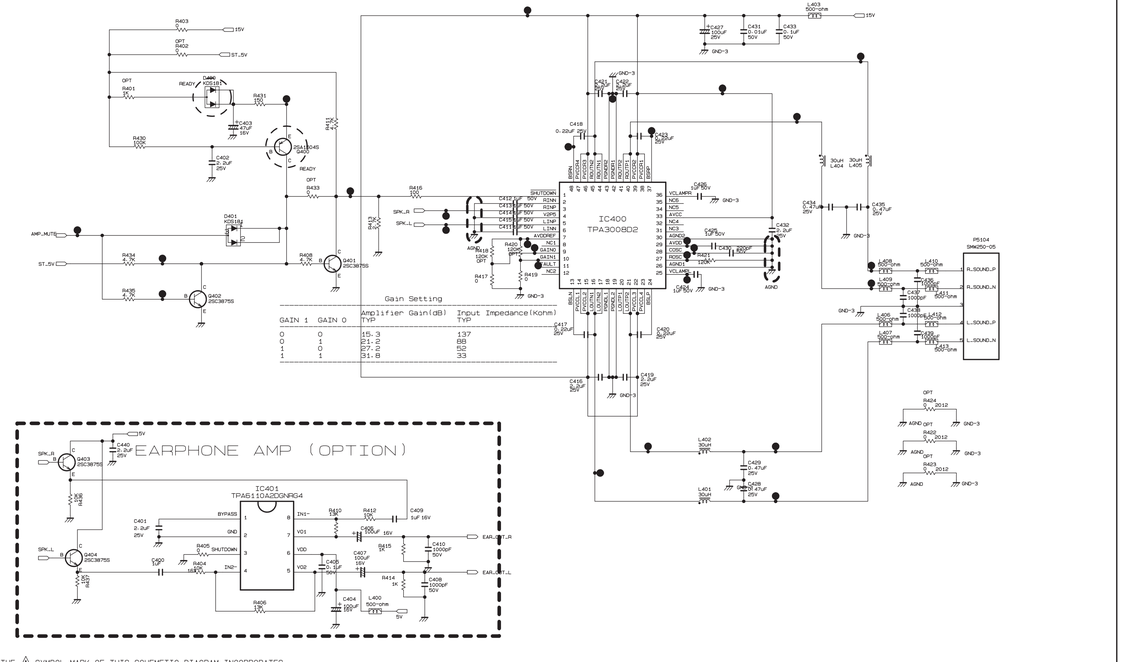

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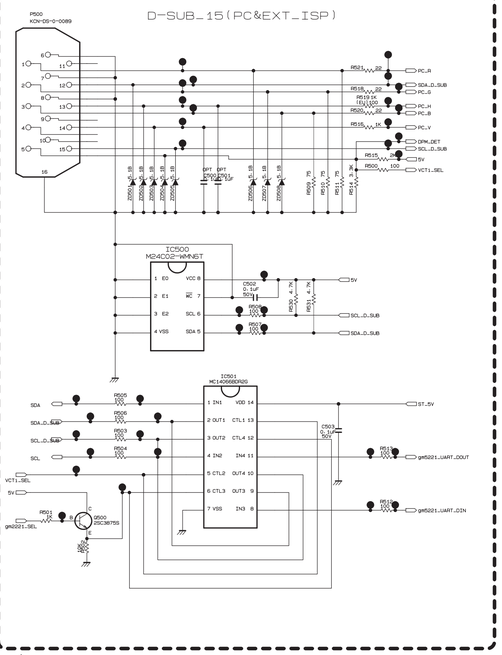
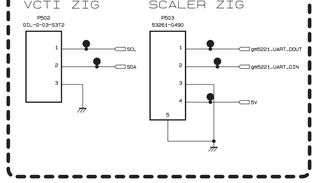
D-SUB_15(PC&EXT_ISP)

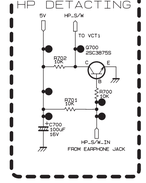


VCTI ZIG

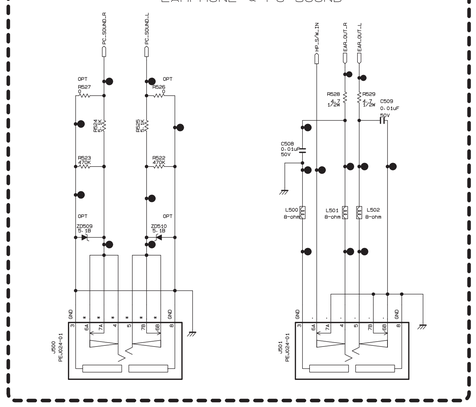


SCALER ZIG

HP DETACTING



EARPHONE & PC SOUND



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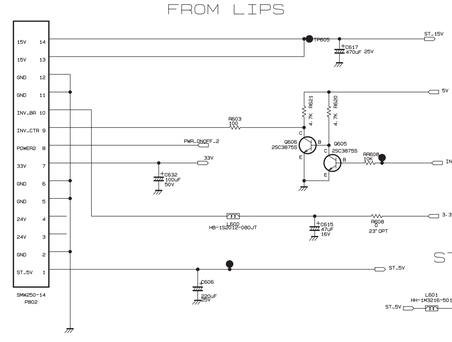
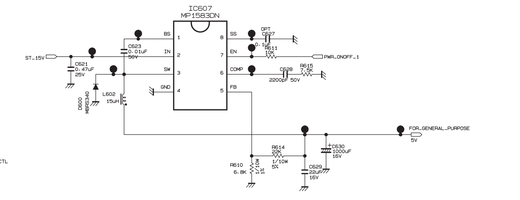
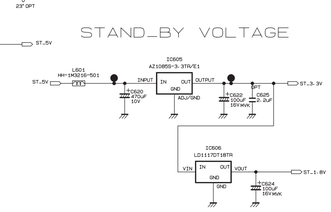
FROM LIPS

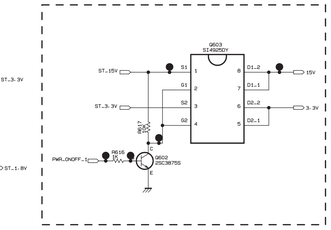


IC607 MST153B3CN

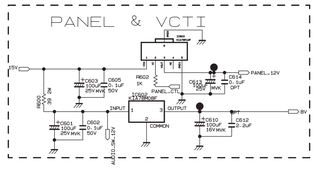


STAND_BY VOLTAGE

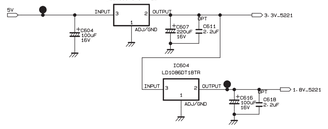




PANEL & VCTI



GM5221 VOLTAGE REGULATOR



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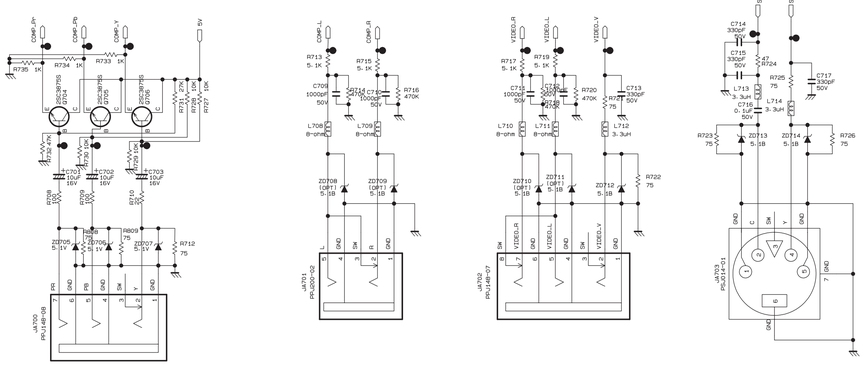
VIDEO & COMPONENT & S-VIDEO



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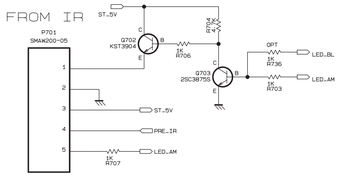
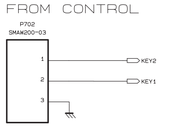


FROM CONTROL



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